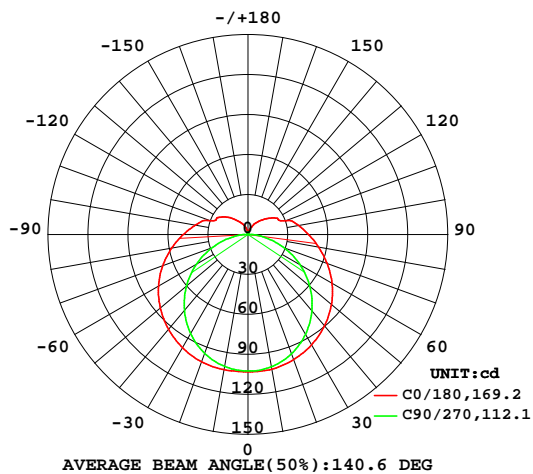


LUMINAIRE PHOTOMETRIC TEST REPORT

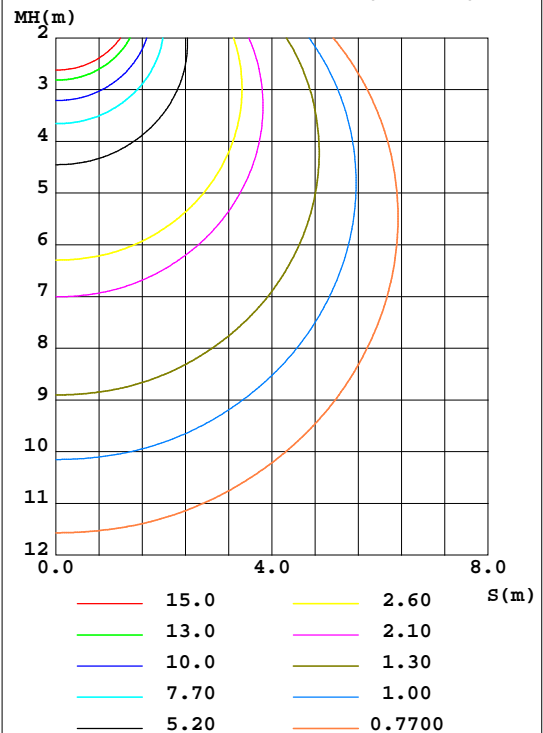
Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 48.97 lm/W			
MODEL	NNS1224	I _{max} (cd)	103.0	S/MH(C0/180)	1.43
NOMINAL POWER(W)	9.6	LOR(%)	89.8	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	465.44	h UP,DN(C0-180)	7.7,36.5
NOMINAL FLUX(lm)	518.086	CIE CLASS	SEMI-D.	h UP,DN(C180-360)	8.1,37.6
LAMPS INSIDE	1	h up(%)	15.8	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	24	h down(%)	74.1	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

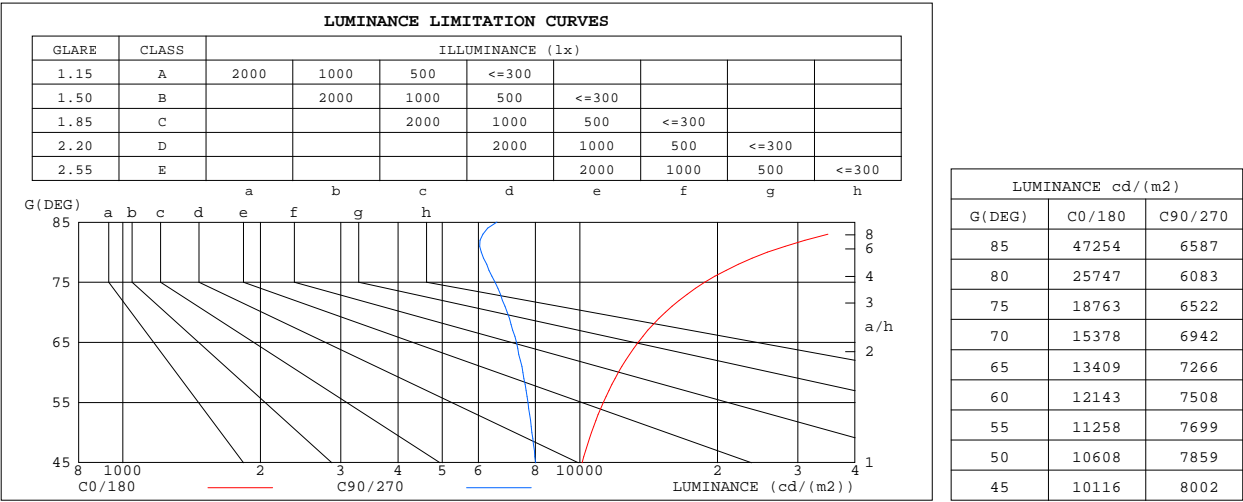
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	102.7	100.9	103.0	100.6					0~ 10	9.766	9.766	2.1,1.89
20	99.99	95.40	101.7	95.02					10~ 20	28.33	38.10	8.19,7.35
30	95.60	86.50	98.23	85.99					20~ 30	43.89	81.99	17.6,15.8
40	89.49	74.68	92.82	74.21					30~ 40	54.76	136.8	29.4,26.4
50	81.82	60.62	85.90	60.28					40~ 50	60.00	196.7	42.3,38
60	72.86	45.05	77.57	44.78					50~ 60	59.30	256.1	55,49.4
70	63.12	28.49	68.12	28.25					60~ 70	53.09	309.1	66.4,59.7
80	53.65	12.68	58.02	12.59					70~ 80	42.77	351.9	75.6,67.9
90	45.56	2.907	48.66	3.002					80~ 90	31.85	383.8	82.5,74.1
100	38.91	0.3670	40.45	0.3154					90~100	24.29	408.0	87.7,78.8
110	30.78	0.5930	30.62	0.5150					100~110	19.35	427.4	91.8,82.5
120	24.80	0.8177	25.77	0.7143					110~120	13.63	441.0	94.8,85.1
130	18.74	1.005	20.39	0.8947					120~130	10.49	451.5	97,87.2
140	13.39	1.165	14.68	1.043					130~140	6.909	458.4	98.5,88.5
150	8.709	1.320	10.15	1.210					140~150	4.074	462.5	99.4,89.3
160	4.591	1.590	6.258	1.506					150~160	2.046	464.5	99.8,89.7
170	1.642	1.842	1.519	1.744					160~170	0.7243	465.3	100,89.8
180	1.564	1.976	1.577	1.957					170~180	0.1636	465.4	100,89.8
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-07-01

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.750m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



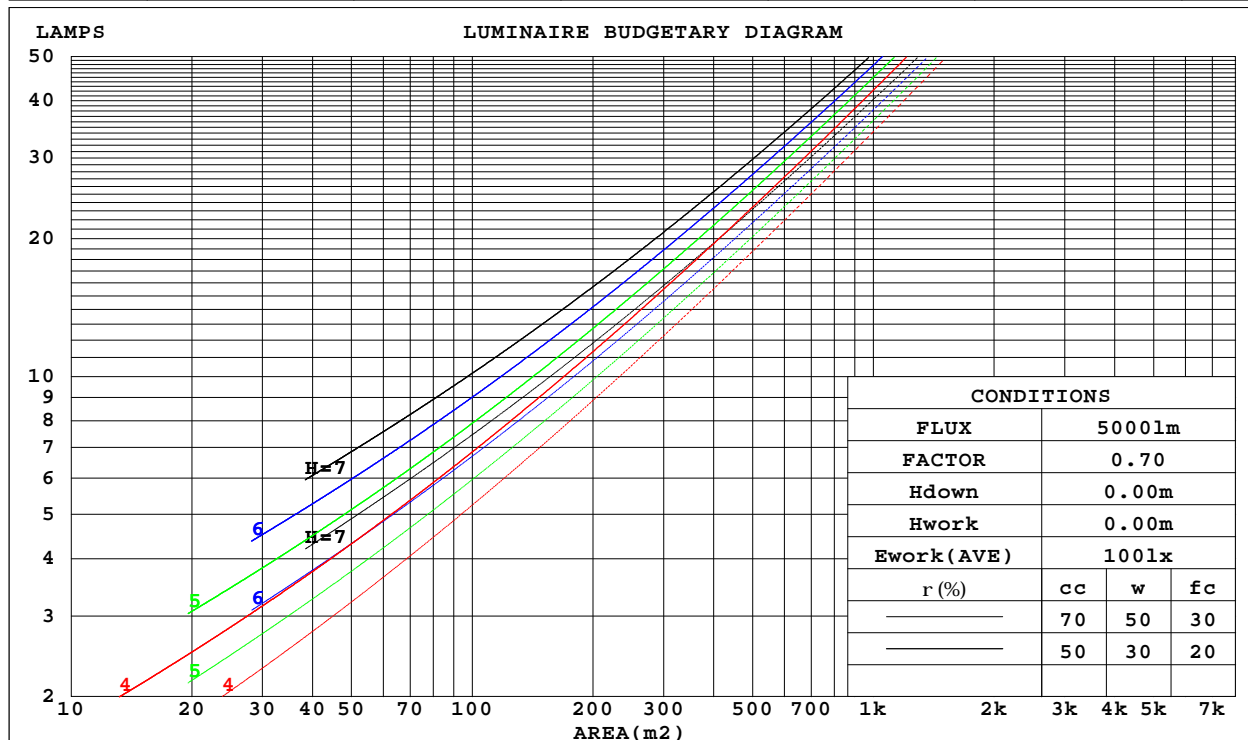
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.03	1.03	1.03	.99	.99	.99	.91	.91	.91	.84	.84	.84	.77	.77	.77	.74
1.0	.86	.82	.77	.83	.79	.75	.76	.73	.69	.70	.67	.64	.64	.62	.60	.57
2.0	.74	.67	.61	.71	.65	.59	.65	.60	.55	.60	.55	.52	.55	.51	.48	.45
3.0	.64	.56	.50	.62	.54	.48	.57	.50	.45	.52	.47	.43	.48	.44	.40	.37
4.0	.56	.48	.41	.54	.46	.40	.50	.43	.38	.46	.40	.36	.42	.38	.34	.31
5.0	.50	.42	.35	.48	.40	.34	.44	.38	.32	.41	.35	.31	.38	.33	.29	.27
6.0	.45	.36	.30	.43	.35	.30	.40	.33	.28	.37	.31	.27	.34	.29	.25	.23
7.0	.40	.32	.27	.39	.31	.26	.36	.29	.25	.33	.28	.23	.31	.26	.22	.20
8.0	.37	.29	.23	.35	.28	.23	.33	.26	.22	.31	.25	.21	.28	.23	.20	.18
9.0	.34	.26	.21	.32	.25	.20	.30	.24	.20	.28	.23	.19	.26	.21	.18	.16
10.0	.31	.24	.19	.30	.23	.18	.28	.22	.18	.26	.21	.17	.24	.19	.16	.14



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

rcc	80%	70%	50%	30%	10%	0
rw	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
rfc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)					
0.0						
1.0	.339 .193 .061	.328 .187 .059	.306 .176 .056	.287 .166 .053	.269 .156 .050	
2.0	.296 .162 .050	.285 .157 .048	.266 .148 .046	.249 .140 .044	.232 .131 .041	
3.0	.264 .140 .042	.254 .136 .041	.237 .129 .039	.221 .121 .037	.206 .114 .035	
4.0	.238 .124 .036	.230 .120 .035	.214 .113 .034	.199 .107 .032	.186 .101 .031	
5.0	.217 .110 .032	.209 .107 .031	.195 .101 .030	.182 .096 .028	.169 .090 .027	
6.0	.199 .100 .028	.192 .097 .028	.179 .092 .027	.167 .087 .025	.155 .082 .024	
7.0	.183 .091 .026	.177 .088 .025	.165 .084 .024	.154 .079 .023	.144 .075 .022	
8.0	.170 .083 .023	.164 .081 .023	.154 .077 .022	.143 .073 .021	.134 .069 .020	
9.0	.159 .077 .021	.153 .075 .021	.143 .071 .020	.134 .067 .019	.125 .064 .018	
10.0	.148 .071 .020	.144 .069 .019	.134 .066 .019	.126 .062 .018	.117 .059 .017	

rcc	80%	70%	50%	30%	10%	0
rw	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
rfc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio Ceiling Cavity Exitance Coefficients(CCEC)					
0.0	.291 .291 .291	.249 .249 .249	.170 .170 .170	.098 .098 .098	.031 .031 .031	
1.0	.287 .261 .237	.246 .224 .204	.168 .154 .141	.097 .089 .082	.031 .029 .027	
2.0	.281 .240 .206	.241 .207 .178	.165 .143 .124	.095 .083 .073	.031 .027 .024	
3.0	.274 .225 .186	.235 .194 .162	.161 .135 .113	.093 .079 .067	.030 .026 .022	
4.0	.267 .214 .173	.230 .185 .151	.158 .129 .106	.091 .076 .063	.029 .025 .021	
5.0	.261 .205 .165	.224 .178 .143	.154 .124 .101	.089 .073 .060	.029 .024 .020	
6.0	.254 .198 .158	.218 .172 .138	.151 .120 .097	.087 .071 .058	.028 .023 .019	
7.0	.248 .192 .153	.213 .167 .134	.147 .117 .095	.086 .069 .056	.028 .023 .019	
8.0	.242 .187 .150	.208 .162 .131	.144 .114 .093	.084 .067 .055	.027 .022 .018	
9.0	.236 .183 .147	.203 .159 .128	.141 .112 .091	.082 .066 .054	.027 .022 .018	
10.0	.231 .179 .145	.199 .156 .126	.138 .109 .090	.081 .065 .054	.026 .021 .018	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm										
NAME: NNS1224					TYPE:			WEIGHT:		
SPEC.:NNS1224-8DW24CSS050CC0100					DIM.: 1000*12*24mm			SERIAL No.:		
MFR.: Colors					SUR.:1000*12			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	22.7	24.1	23.2	24.6	25.1	21.0	22.4	21.5	22.9	23.4
3H	25.3	26.6	25.8	27.1	27.7	22.6	23.8	23.1	24.4	25.0
4H	26.7	27.9	27.3	28.5	29.1	23.2	24.4	23.8	25.0	25.6
6H	28.3	29.5	28.9	30.0	30.7	23.7	24.8	24.3	25.4	26.1
8H	29.3	30.4	29.8	30.9	31.6	23.9	25.0	24.5	25.6	26.2
12H	30.3	31.4	30.9	32.0	32.6	24.0	25.1	24.6	25.7	26.3
4H 2H	23.2	24.4	23.8	25.0	25.6	22.0	23.2	22.5	23.7	24.3
3H	26.0	27.1	26.6	27.6	28.3	23.8	24.9	24.4	25.4	26.1
4H	27.6	28.6	28.2	29.2	29.9	24.6	25.6	25.3	26.2	26.9
6H	29.4	30.3	30.1	30.9	31.7	25.3	26.2	26.0	26.8	27.6
8H	30.5	31.3	31.1	31.9	32.7	25.6	26.4	26.3	27.1	27.8
12H	31.7	32.4	32.4	33.1	33.9	25.8	26.6	26.5	27.2	28.0
8H 4H	27.9	28.7	28.6	29.4	30.1	25.5	26.3	26.1	26.9	27.7
6H	30.0	30.6	30.7	31.3	32.1	26.5	27.2	27.2	27.9	28.6
8H	31.2	31.8	31.9	32.5	33.3	27.0	27.6	27.7	28.3	29.1
12H	32.7	33.2	33.4	33.9	34.7	27.4	27.9	28.1	28.6	29.5
12H 4H	27.9	28.7	28.6	29.3	30.1	25.7	26.5	26.4	27.1	27.9
6H	30.1	30.7	30.8	31.4	32.2	26.9	27.5	27.6	28.2	29.0
8H	31.4	31.9	32.1	32.6	33.5	27.6	28.1	28.3	28.8	29.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5				

CIE Pub.117, 518.1 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.3)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

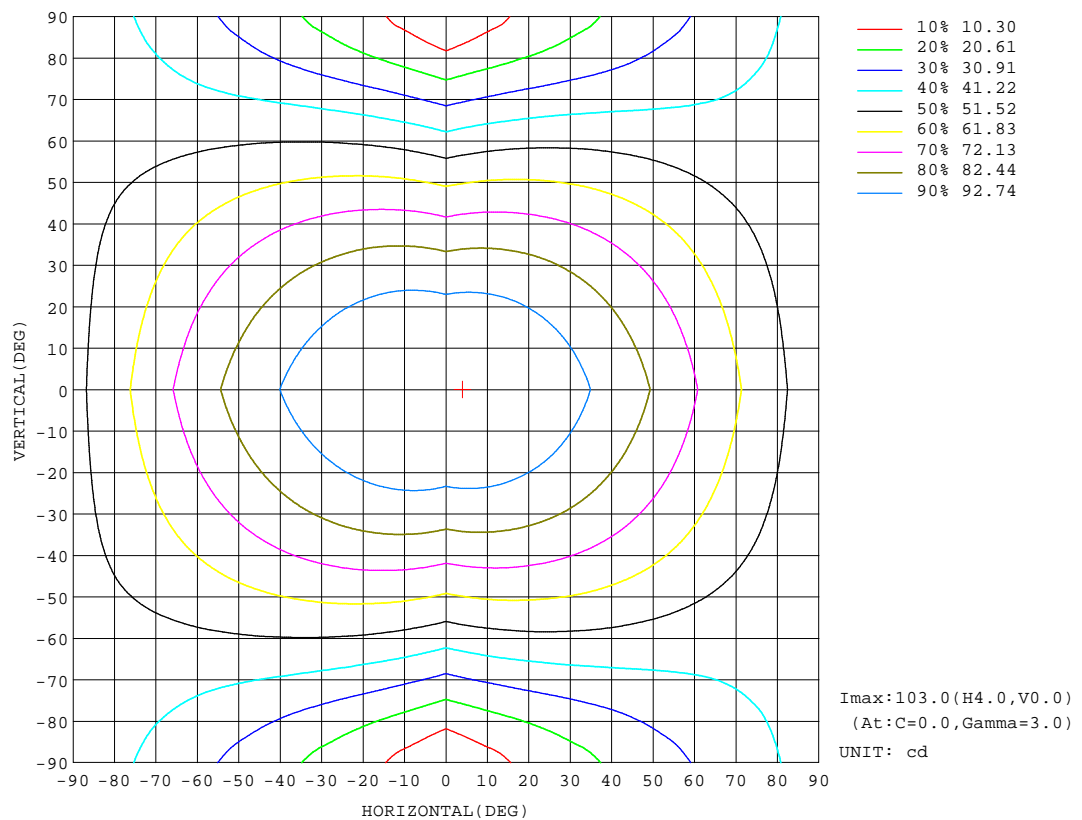
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	43	32	26	42	32	25	41	31	25	19
0.80	52	40	33	50	39	32	48	38	32	25
1.00	59	47	40	57	46	39	54	47	38	30
1.25	65	54	46	63	52	45	59	50	44	35
1.50	69	59	51	67	57	50	63	54	48	39
2.00	76	66	59	73	64	58	68	61	55	45
2.50	80	71	64	77	69	62	71	65	59	48
3.00	83	75	69	80	73	67	74	68	63	51
4.00	88	81	75	84	78	73	78	73	68	56
5.00	90	84	79	87	81	76	80	76	72	58
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



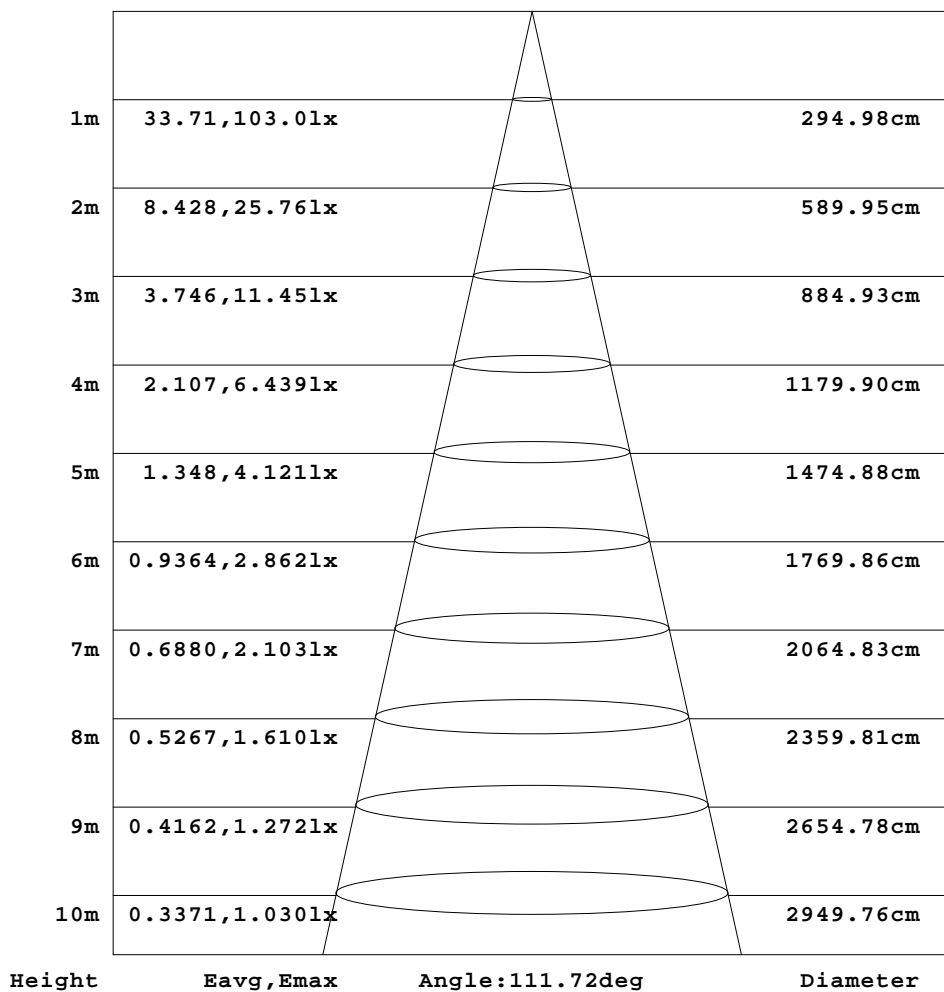
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Flux out:232.8 lm



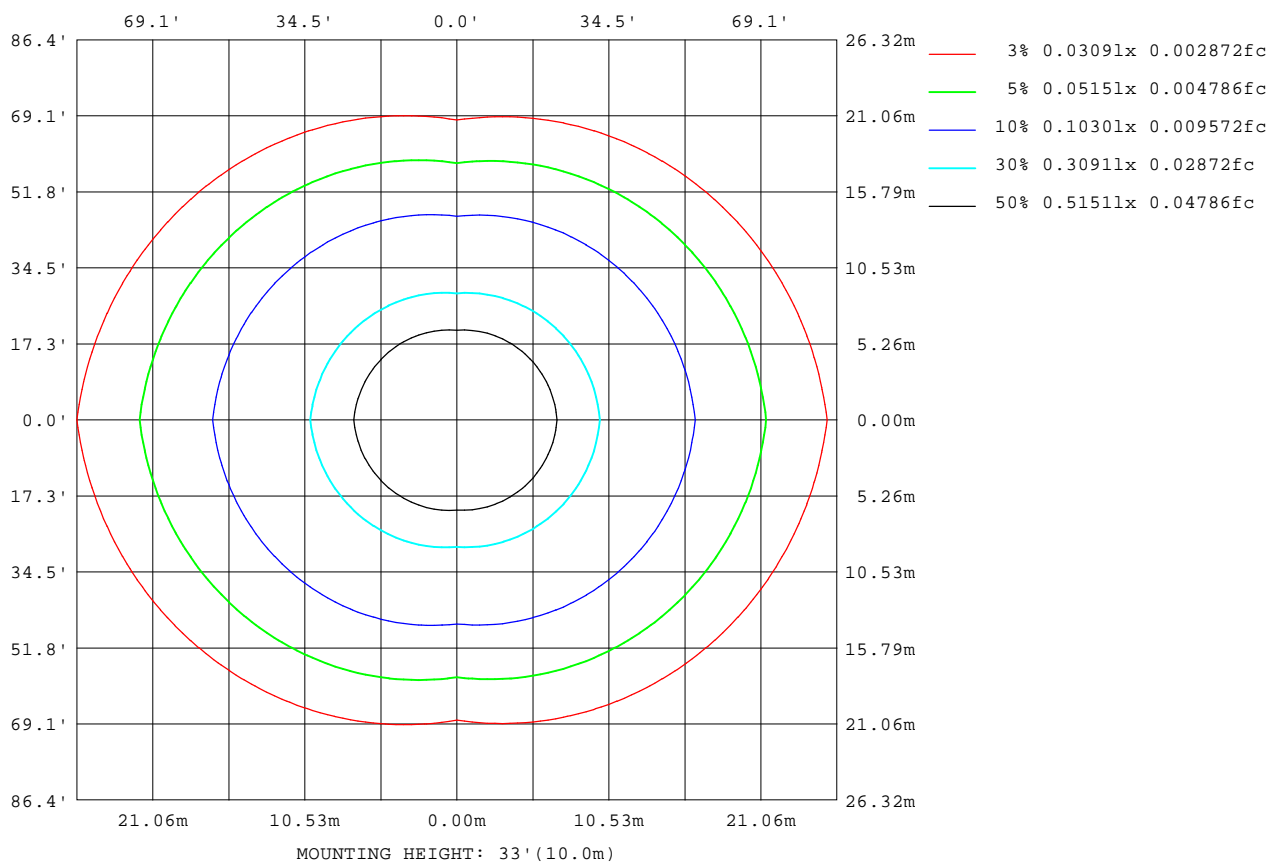
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

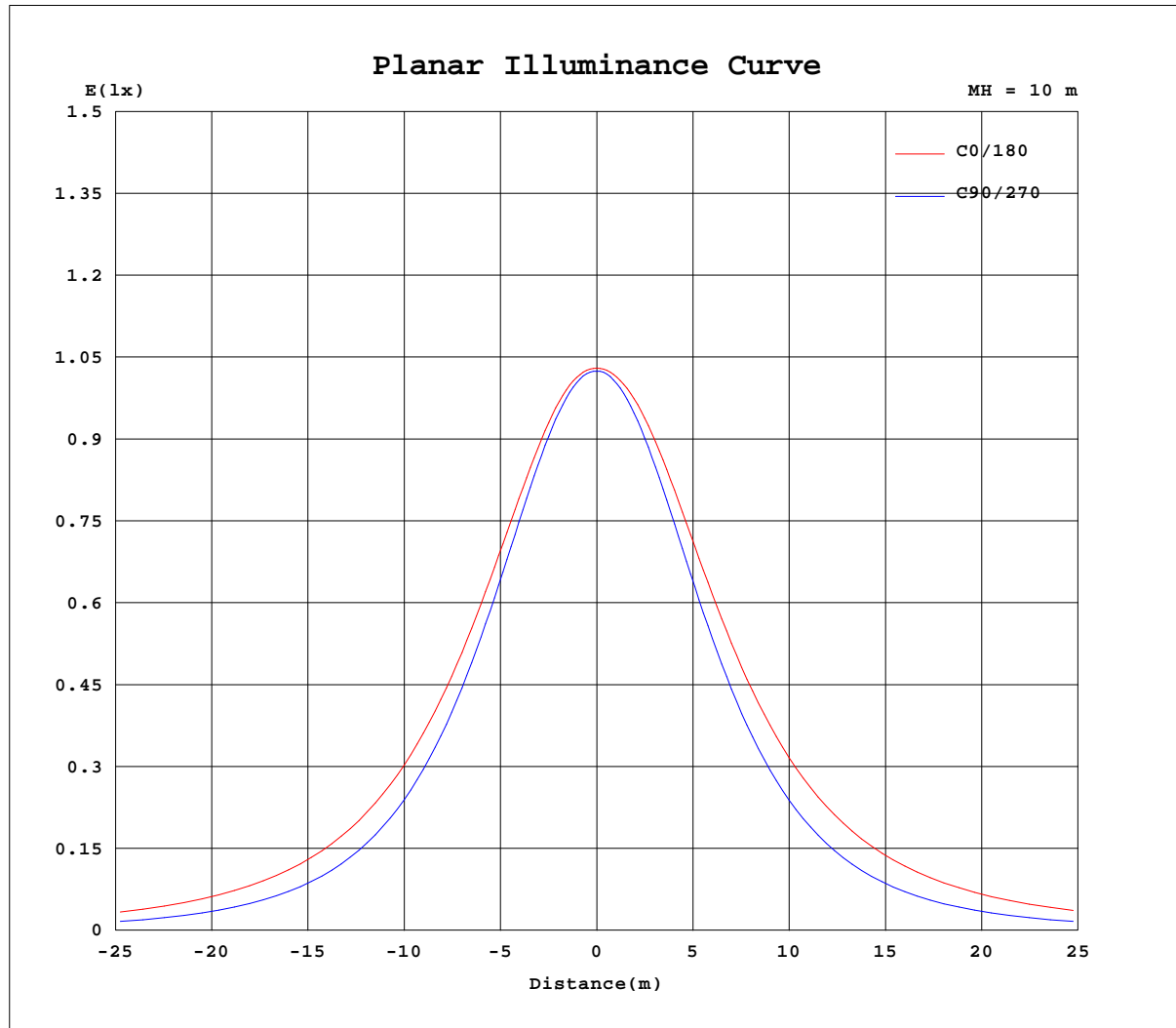
AvgL	cd/m2
L_0~180(65)av	13896
L_0~180(75)av	19535
L_0~180(85)av	49051
L_90~270(65)av	7237
L_90~270(75)av	6489
L_90~270(85)av	6521
L_45(65)av	9765
L_45(75)av	11430
L_45(85)av	22582

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: COLORS
Test Date: 2019-07-01

Range: 0 - 180DEG
Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 10.750m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.3960A P:9.504W PF:1.000 Freq:0Hz Lamp Flux:518.086x1 lm		
NAME: NNS1224	TYPE:	WEIGHT:
SPEC.:NNS1224-8DW24CSS050CC0100	DIM.: 1000*12*24mm	SERIAL No.:
MFR.: Colors	SUR.:1000*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	103	102	103	102															
5	103	102	103	102															
10	103	101	103	101															
15	102	98.6	103	98.2															
20	100.0	95.4	102	95.0															
25	98.0	91.3	100	90.9															
30	95.6	86.5	98.2	86.0															
35	92.7	80.9	95.8	80.4															
40	89.5	74.7	92.8	74.2															
45	85.8	67.9	89.5	67.5															
50	81.8	60.6	85.9	60.3															
55	77.5	53.0	81.9	52.7															
60	72.9	45.0	77.6	44.8															
65	68.0	36.8	72.9	36.6															
70	63.1	28.5	68.1	28.2															
75	58.3	20.3	63.1	20.1															
80	53.7	12.7	58.0	12.6															
85	49.4	6.89	53.2	6.75															
90	45.6	2.91	48.7	3.00															
95	42.1	0.59	44.4	0.36															
100	38.9	0.37	40.4	0.32															
105	35.9	0.46	36.9	0.43															
110	30.8	0.59	30.6	0.51															
115	25.7	0.70	26.5	0.60															
120	24.8	0.82	25.8	0.71															
125	21.8	0.91	23.2	0.80															
130	18.7	1.00	20.4	0.89															
135	15.9	1.09	17.5	1.01															
140	13.4	1.17	14.7	1.04															
145	11.1	1.24	12.2	1.12															
150	8.71	1.32	10.1	1.21															
155	6.36	1.44	8.25	1.34															
160	4.59	1.59	6.26	1.51															
165	2.31	1.73	4.02	1.64															
170	1.64	1.84	1.52	1.74															
175	1.57	1.95	1.52	1.86															
180	1.56	1.98	1.58	1.96															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-07-01

g Range: 0 - 180DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.750m [K=1.0000]
Remarks: